

IN THE CLAIMS

Please cancel Claims 1-21 and replace with the following claims:

R2 Sub B1

--22. An electrochemical device comprising at least one carrier substrate provided with a stack of functional layers comprising at least one electrically conducting layer A based on metal oxide(s) and at least one electrochemically active layer F, wherein said layer A is part of a multicomponent electrode E combining with the layer A at least one higher-conductivity material B and/or at least one network C of conducting wires or of conducting strips.

23. The device of Claim 22, which is an electrically controllable system having variable optical and/or energy properties.

24. The device of Claim 22, wherein the material B is in the form of at least one layer combined with the layer A and in electrical contact therewith.

25. The device of Claim 22, wherein the material B is incorporated in the layer A.

26. The device of Claim 25, wherein the the material B is incorporated in the layer A, in the form of fibers or particles.

27. The device of Claim 22, wherein the layers A are based on doped metal oxides selected from the group consisting of doped tin oxide, doped zinc oxide and doped indium oxide.

28. The device of Claim 27, wherein the doped tin oxide is fluorine doped or antimony doped.

Sub B1

29. The device of Claim 27, wherein the doped zinc oxide is aluminum doped, tine doped or fluorine doped.

30. The device of Claim 27, wherein the doped indium oxide is tin doped.

31. The device of Claim 22, wherein the material B is essentially metallic.

32. The device of Claim 31, wherein the material B is based on metals selected from the group consisting of Ag, Au, Cu, Al, and alloys of thereof

33. The device of Claim 22, wherein said multicomponent electrode E is essentially transparent in the visible region.

34. The device of Claim 22, wherein said network C includes a plurality of conducting strips obtained by screen printing using a paste-like suspension of silver-type metal and a low-melting-point frit in an organic binder.

35. The device of Claim 34, wherein said plurality of conducting strips are essentially parallel each to the other.

36. The device of Claim 22, wherein the network C is screen-printed onto the glass-type carrier substrate, then covered with at least one electrically conducting layer A in order to form an electrode E, or is laid down on the electrically conducting layer A covering the carrier substrate.

37. The device of Claim 22, wherein the network C includes a plurality of conducting wires in the form of essentially metallic wires surface-laid on a sheet based on thermoplastic polymer.

38. The device of Claim 22, wherein the network C is based on a fabric, a net or a metallic nonwoven material.

39. The device of Claim 38, wherein the network C is comprises metallic wires having a diameter of from 10 to 100 μm .

Sub
B3
B3
per

40. The device of Claim 38, wherein the network C is a network surface-laid on a sheet based on thermoplastic polymer.
41. The device of Claim 22, wherein the network C is obtained by etching or perforating a metallic layer or a metallic sheet.
42. The device of Claim 22, wherein the multicomponent electrode E comprises at least one layer A and at least one layer B in electrical contact, at least one of these layers optionally being in contact with at least one layer D of dielectric material, and all of the layers A, B and D preferably forming a stack of layers with interference interaction.
43. The device of Claim 22, wherein the layers D have an optical function, a function of anchoring the other layers B to the carrier substrate or a function as a barrier to the migration of alkaline species coming from the glass.
44. The device of Claim 43, wherein the layers D are in the form selected from the group consisting of metal oxide, silicon oxide, metal oxycarbide, silicon oxycarbide, metal oxynitride, silicon oxycarbide and silicon nitride.
45. The device of Claim 22, wherein the multicomponent electrodes E comprise the sequence ITO/Ag/ITO or Ag/ITO with optional interposition of thin layers of partially oxidized metal at the Ag/ITO interface.
46. The device of Claim 22, wherein the multicomponent electrodes E are provided with current leads.
47. The device of Claim 46, wherein the current leads are in the form of metal braids or shims.

sub B3 cancelled
A2 cont'd

48. The device of Claim 22, which is an electrochromic system, with at least one carrier substrate and a stack of functional layers comprising at least, in succession, a first electrically conducting layer, an electrochemically active layer liable to reversible insertion of ions of anodic-coloring or, respectively, cathodic-coloring electrochromic material type, a layer of electrolyte, a second electrochemically active layer liable to reversible insertion of ions of anodic-coloring or, respectively, anodic-coloring electrochromic material type, and a second electrically conducting layer, with at least one of the two electrically conducting layers in the form of a layer A based on metal oxide(s) and being part of a multicomponent electrode E.

49. The device of Claim 48, wherein said electrochromic system is an all-solid or all-polymer electrochromic system.

sub B4
50. The device of Claim 48, wherein said ions are H^+ , Li^+ or OH^- , of cathodic-coloring

51. The device of Claim 22, which is a viologenic system with at least one carrier substrate and a stack of functional layers comprising at least, in succession, a first electrically conducting layer, a film having viologenic properties in the form of a polymer, of a gel or of a suspension in a liquid medium, and a second electrically conducting layer, with at least one of the two electrically conducting layers being of type A based on metal oxide(s) and being part of a multicomponent electrode E.

52. The device of Claim 22, wherein the stack of functional layers is arranged between two substrates, each of which may be rigid, of glass type or rigid polymer or semi-rigid or flexible of PET type.

53. The device of Claim 52, wherein said polymer is a polycarbonate or PMMA.

Sub B5
2
Concl
54. The device of Claim 52, wherein, the layers are transparent or absorbent.

55. A glazing comprising the device of Claim 22, wherein said device using as carrier substrate at least one of the rigid constituent substrates of the glazing and/or at least one flexible substrate combined by lamination with one of the rigid constituent substrates of said glazing.

56. A method of making a glazing comprising laminating the device of Claim 22 with at least one rigid constituent substrate.

57 A electrochemical energy storage device comprising the device of Claim 22.

58. The electrochemical energy storage device of Claim 57 which is a battery or fuel cell.--